TEST REPORT ON COARSE AGGREGATES

Lab ID	:	CP-2017-02-02-03 **Date: 10-02-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Improvement to roads and drains at Kotebheedhi road in ward No.02 Yelahanka sub Division.
Agency	:	Technical Manager (West), KRIDL, BBMP, Bangalore.
Customer's Reference	:	BBMP/EE/(YNK.D)/W.O/112/2016-17
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	02-02-17
Sample ID No	:	2017-02-02-03-01(b)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383 - 1970 (RA2016) (Specification for Coarse and fine Aggregates from natural sources for concrete IS: 2386 :1963(Part - 1, 2, 3) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 2: Estimation of Deleterious Materials and Organic Impurities. IS 2386 Part 3: Specific gravity, Density, Voids,Water Abservation
Date of test	:	03-02-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:1970
1	80 mm	0	0	0	100	100
2	40 mm	210	210	4.2	95.8	90-100
3	20 mm	2866	3076	61.52	38.5	30-70
4	10 mm	1054	4130	82.6	17.4	10-35
5	4.75 mm	808	4938	98.76	1.2	0-5
6	Pan	62	5000	100	0.0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-02-02-03**

Sample ID No : 2017-02-02-03-01(b) **Date: 10-02-2017**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-1970
1	Flakiness Index(%)	13.5	–
2	Elongation Index(%)	12.1	–
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.54	–
5	Bulk Density(Compacted) (Kg/l)	1.6	–
6	Water Absorption(%)	0.2	–

Note:

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Prepared by
Harshitha

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KARTHIK RECHAN
Authorized Signatory
Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-02-02-03** **Date: 10-02-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Improvement to roads and drains at Kotebheedhi road in ward No.02 Yelahanka sub Division.
Agency	:	Technical Manager (West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE/(YNK.D)/W.O/112/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	02-02-17
Sample ID No	:	2017-02-02-03-01(a)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383 - 1970 (RA2016) (Specification for Coarse and fine Aggregates from natural sources for concrete IS: 2386 :1963(Part - 1, 2, 3) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 2: Estimation of Deleterious Materials and Organic Impurities. IS 2386 Part 3: Specific gravity, Density, Voids,Water Abservation
Date of test	:	03-02-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : **5000** **grams**

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:1970
1	40 mm	0	0	0	100	100
2	20 mm	996	996	19.92	80.1	90-100
3	10 mm	2166	3162	63.24	36.8	25-55
4	4.75 mm	1644	4806	96.12	3.9	0-10
5	Pan	194	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-02-02-03**

Sample ID No : 2017-02-02-03-01(a)

Date: 10-02-2017

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-1970
1	Flakiness Index(%)	12.2	–
2	Elongation Index(%)	14.7	–
3	Specific Gravity	2.62	–
4	Bulk Density(Loose) (Kg/l)	1.56	–
5	Bulk Density(Compacted) (Kg/l)	1.64	–
6	Water Absorption(%)	0.25	–
8	Aggregate crushing Value(%)	22.1	Shall not exceed 45% by weight for aggregates used for concrete other than for wearing surface and 30% by weight for concrete for wearing surfaces such as runways, roads, pavements
9	Aggregate Impact Value(%)	20.5	Shall not exceed 45% by weight for aggregates used for concrete other than for wearing surface and 30% by weight for concrete for wearing surfaces such as runways, roads, pavements

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Prepared by
Harshitha

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KARTHIK RECHAN
Authorized Signature
Quality Manager

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2017-01-13-03 **Date: 10-02-2017**

Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Address : Yelahanka Sub Division, BBMP, Bangalore.

Project Name : Improvement to roads and drains at Kotebheedhi road in ward No.02 Yelahanka sub Division.

Agency : Technical Manager (West), KRIDL, BBMP, Bangalore.

Customer's Reference : BBMP/EE/(YNK.D)/W.O/112/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 13-01-17

Sample ID No : 2017-01-13-03/01

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2 3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 6, Determination of Compressive Strength, Clause 6
IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6

Date of test : 13-01-2017 to 10-02-2017

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	3.05	–
2	Finess by Air permeablity method (m^2/kg, Min)	288.5	225m^2/kg, Min
3	Density (gm/cc)	3.31	–
4	Standard Consistency (%)	27.5	Not specified
5	Initial Setting time	240 minutes	Not less than 30 minutes

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : **CP-2017-01-13-03**

Sample ID No : **2017-01-13-03/01** **Date: 10-02-2017**

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
6	Final Setting time	320 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm
8	Compressive Strength		
	3 Days	28.5 N/mm^2	Not less than 27 N/mm^2
	7 Days	39.5 N/mm^2	Not less than 37 N/mm^2
	28 Days	56.0 N/mm^2	Not less than 53 N/mm^2

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Prepared by
Harshitha

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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TEST REPORT OF FINE AGGREGATE

Lab ID	:	**CP-2017-02-02-03** **Date: 10-02-17**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Improvement to roads and drains at Kotebheedhi road in ward No.02 Yelahanka sub Division.
Agency	:	Technical Manager (West), KRIDL, BBMP, Bangalore.
Customer's Reference	:	BBMP/EE/(YNK.D)/W.O/112/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	02-02-17
Sample ID No	:	2017-02-02-03-02
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS: 383 - 1970 (RA2016) (Specification for Coarse and fine Aggregates from natural sources for concrete IS: 2386 :1963(Part - 1, 2, 3) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 2: Estimation of Deleterious Materials and Organic Impurities. IS 2386 Part 3: Specific gravity, Density, Voids,Water Abservation
Date of test	:	03-02-17
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:1970			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0	100	100	100	100	100
2	4.75 mm	79	79	7.9	92.1	90-100	90-100	90-100	95-100
3	2.36 mm	238	317	31.7	68.3	60-95	75-100	85-100	95-100
4	1.18 mm	342	659	65.9	34.1	30-70	55-90	75-100	90-100
5	600 micron	159	818	81.8	18.2	15-34	35-59	60-79	80-100
6	300 micron	101	919	91.9	8.1	5-20	8-30	12-40	15-50
7	150 micron	49	968	96.8	3.2	0-10	0-10	0-10	0-15
8	Pan	32	1000	100	0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone I

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-02-02-03**

Sample ID No : 2017-02-02-03-02

Date: 10-02-17

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-1970 (RA2016)
1	Water Absorption(%)	3.42	–
2	Specific Gravity	2.52	–
3	Material finer than 75 micron(%)	4.1	Not more than 15 percent

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2017-02-22-02

Date: 25-02-17

Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Address : Yelahanka Sub Division, BBMP, Bangalore.

Project Name : Improvement to roads and drains at Kotebheedhi road in ward No.02 Yelahanka sub Division.

Agency : Technical Manager (West), KRIDL, BBMP, Bangalore.

Customer's Reference : BBMP/EE/(YNK.D)/W.O/112/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 22-02-17

Sample ID No : 2017-02-22-02/01

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 25/02/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	18/02/2017	25/02/2017	149.22 X 150.54 X 149.22	22464	8.165	388.6	17.3	17.2
2	Drain Concrete	M20	18/02/2017	25/02/2017	150.65 X 150.34 X 151.32	22567	8.152	401.7	17.8	
3	Drain Concrete	M20	18/02/2017	25/02/2017	151.88 X 150.15 X 150.11	22568	8.154	372.4	16.5	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2017-02-22-02

Date: 18-03-17

Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Address : Yelahanka Sub Division, BBMP, Bangalore.

Project Name : Improvement to roads and drains at Kotebheedhi road in ward No.02 Yelahanka sub Division.

Agency : Technical Manager (West), KRIDL, BBMP, Bangalore.

Customer's Reference : BBMP/EE/(YNK.D)/W.O/112/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 22-02-17

Sample ID No : 2017-02-22-02/02

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 18/03/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	18/02/2017	18/03/2017	151.43 X 150.41 X 150.87	22777	8.176	539.8	23.7	23.8
2	Drain Concrete	M20	18/02/2017	18/03/2017	151.66 X 150.26 X 150.42	22567	8.114	543.9	24.1	
3	Drain Concrete	M20	18/02/2017	18/03/2017	150.26 X 150.18 X 150.27	22568	8.154	532.6	23.6	

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TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2017-02-02-03**

Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. **Date: 10-02-17**

Address : Yelahanka Sub Division, BBMP, Bangalore.

Project Name : Improvement to roads and drains at Kotebheedhi road in ward No.02 Yelahanka sub Division.

Agency : Technical Manager (West), KRIDL, BBMP, Bangalore.

Customer's Reference : BBMP/EE/(YNK.D)/W.O/112/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 02-02-17

Sample ID No : 2017-02-22-02/04

Sample Type /Size : Precast Cover Slab

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete

Date of test : 03/02/2017

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(mm)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	75.52	100.18	1.216	4478	99.1	22.1	20.6	25.7
2	Cover Slab-2	75.51	100.32	1.232	4477	101.4	22.6	21.1	26.3
3	Cover Slab-3	75.51	100.21	1.208	4477	103.1	23.0	21.4	26.8

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